On Methods of Solving Geodetic Tasks Over Great Distances

S/154/60/000/004/002/004
B012/B054

that, with respect to accuracy, the series according to Bessel's method converge more quickly, and that this method offers certain advantages over the two others. On the other hand, the coefficients have to be converted in this method. At present, the author is working at a special guide describing the methods of solving geodetic tasks (accurate and approximation methods) over great distances. In the second part of the present paper, the author gives some supplements to the suggestions made in the paper (Ref. 4) for improving the Tables and formulas of Professor A. M. Virovets (Ref. 2). They are to be taken into account in a new edition. There are 4 figures and 5 Soviet references.

ASSOCIATION: Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii (Moscow Institute of Geodetic, Aerial Survey and Cartographic Engineers)

SUBMITTED: July 18, 1959

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S/154/60/000/006/001/006
B116/B201

AUTHOR: Bagratuni, G. V., Professor

TITLE: Present problems of spheroidal geodesy

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, no. 6, 1960, 3-6

TEXT: The author refers to modern means available for the surveying of distances (Shoran, Hiran, etc.), on the one hand, and on the demands made on rocket engineering of measuring distances and azimuths between two distant points, on the other. It is stated in this connection that in consideration of the new situation, spheroidal geodesy has to start from the problem of large distances. Therefore, the principles of spheroidal geodesy basing upon the solution of problems involving small distances must be revised. It is pointed out that the designation "spheroidal geodesy" has not a general validity. Outside the USSR, the term "mathematical geodesy" is often applied instead. In the author's opinion, the object of spheroidal geodesy is the geometry of the geoid and the representation of the important parts of its surface on a sphere

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and a plane by certain mathematical laws. In this connection, the expression "spheroidal geodesy" is said to be more appropriate than "mathematical geodesy." The problem is discussed at some length. It is quite possible that the plane rectangular coordinates have to be replaced by new areal coordinates, as was suggested by F. N. Krasovskiy 20 years ago ("in future, rectangular spheroidal coordinates will be the principal coordinates of practical geodesy"). When using such coordinates, the measured lengths and angles could be used without any reductions, the transition from them to the rectangular ones in the Gauss-Krüger projection being fairly simple, while the transition from the geodetic coordinates to them would require not more work than the passage to the plane rectangular coordinates. In the interpretation of data regarding further geodetic networks with large distances between the points, there arises the problem of the planes of projection. Using the aposphere (a notion defined by Hotin) could be possibly of some use in the planes of projection. Papers published in and outside the USSR on the problem of "large distances" in most cases do no more than pose the problem, while offering mere varieties of methods devised in the past century. Vector and tensor calculus are still little used in spheroidal geodesy, and a

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scientific study is required to assign these modes of calculation their proper place in spheroidal geodesy. The first attempt in this direction has been made by Professor N. A. Urmayev. The young scientific workers of the kafedra vysshey geodezii MIIGA i K (Department of Higher Geodesy at the MIIGA i K) are already working on the application of vector analysis in problems of spheroidal geodesy, and results in this field will be expected in the near future. The old question of the use of normal sections for the solution of problems of higher geodesy is presenting itself anew. A mathematical-geodetic investigation of the properties of elliptic arcs and their azimuths will be required in order to be able to use the normal sections for the solution of these problems with some success. No such investigations are, however, being carried on systematically in the USSR or abroad. In this connection, the suggestion made by M. S. Molodenskiy concerning the use of chords of the ellipsoid are of great importance. All furmulas and tables in spheroidal geodesy are out to size of logarithmic calculations. The nonlogarithmic mode of calculation is applied to an absolutely insufficient extent to the solution of geodetic problems. In this connection, reference is made to the special tables compiled by Academician V. K. Khristov, a Bulgarian

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geodesist, for the use of nonlogarithmic formulas when determining longitudinal, latitudinal, and azimuthal differences of geodetic points. The Bulgarian Academy of Sciences published these tables in 1957 under the designation "Tables for the transfer of geodetic coordinates onto the ellipsoid by F. N. Krasovskiy for all latitudes with the aid of an arithmometer". Explanations to these tables have been provided by V. K. Khristov in Bulgarian, Russian, German, and English. It is pointed out in this connection that the most important thing in nonlogarithmic modes of calculation is to obtain formulas suited for programing. In particular, a much too cumbersome mathematical symbolism is now used in spheroidal geodesy. One of the main problems in spheroidal geodesy is said to be the elaboration of a more rational and convenient symbolism.

ASSOCIATION: Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii (Moscow Institute of Engineers of Geodesy, Aerial Photography, and Cartography)

SUBMITTED: October 5, 1960

BAGRATUNI, G.V., kand.tekhn.nauk, dotsent

Derivation of the fundamental equation of a geodetic line. Trudy MIIGAIK no.42:19-21 '60. (MIRA 14:9)

1. Kafedra vysshey geodezii Moskovskogo instituta inzhenerov geodezii, aerofotos"yemki i kartografii.
(Geodesy)

BAGRATUNI, G.V.; BOL'SHAKOV, N.N.; BRUYEVICH, N.I.; BUBNOV, I.A.; GRAMENITSKIY, D.S.; IZOTOV, A.A.; MAZMISHVILI, A.I.; MODRINSKIY, N.I.; SALYAYEV, S.A.; FLORENT'YEV, V.B.; FOMIN, P.M.

Nikolai Fedorovich Bulaevskii; obituary. Izv.vys.ucheb.zav.; geod.i aerof. no.6:121-122 '61. (MIRA 15:3)
(Bulaevskii, Nikolai Fedorovich, 1882-1961)

BAGRATUNI, G.V.; BEKRITSKIY, I.Ya.

Practical work for students of the Moscow Institute of Geodetic, Aerial Survey, and Cartographic Engineers. Geod.i kart. no.4: 3-7 Ap '62. (MIRA 15:12)
(Moscow--Cartography--Study and teaching)
(Moscow--Surveying--Study and teaching)

BAGRATUNI, Gegam Vagramovich Vagramovich; ZAKATOV, P.S., red.; SHURYGINA, A.I., red. izd-va; ROMANOVA, V.V., tekhn.red.

[Course in spheroid geodesy]Kurs sferoidicheskoi geodezii. Moskva, Geodezizidat, 1962. 251 p. (MIRA 15:8)
(Geodesy)

GURSHTEYN, Aleksandr Aronovich; BAGRATUNI, G.V., prof., red.;
BRAZHNIKOV, V.I., red.izd-va; ROMANOVA, V.V., tekhn.red.

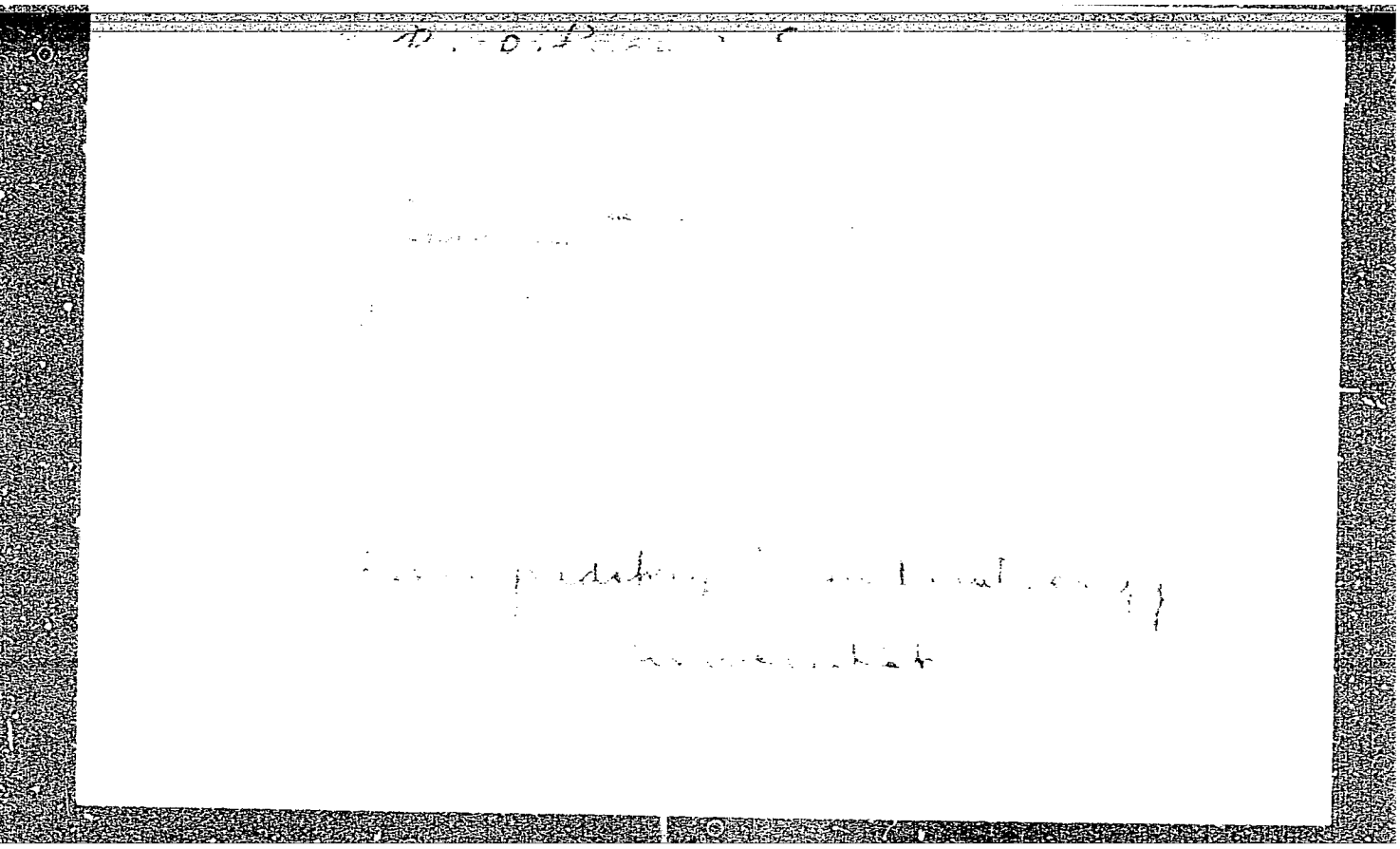
[Man measures the earth] Chelovek izmeriaet Zemliu. Pod red. G.V.Bagratuni. Moskva, Gosgeoltekhizdat, 1963. 35 p.
(MIRA 16:12)
(Geodesy)

BUTKEVICH, Adol'f Veniaminovich; VE[illegible]HKO, V.[illegible], kand. tekhn. nauk, retsenzent; BAGRATUNI, G.V., prof., red.

[Studies on the solution of computation problems in spheroidal geodesy] Issledovaniia po resheniiu vychislitel'nykh zadach sferoidicheskoi geodezii. Moskva, Nedra, 1964. 258 p. (MIRA 18:1)

ZAKATOV, Petr Sergeyevich, prof.; MOROZOV, V.M., prof., retsenzent; VITMAN, A.I., dots., retsenzent; BAGRATUNI, G.B., red. G.V.

[Course in higher geodesy; spheroidal geodesy, theoretical geodesy, and the elements of gravimetry] Kurs vysshei geodezii; sferoidicheskaia geodeziia, teoreticheskaia geodeziia i osnovy gravimetrii. Izd. 3., dop. i ispr. Moskva, Izd-vo "Nedra," 1964. 503 p. (MIRA 17:8)



SARAPYAN, E., kand.tekhn.nauk; BAGRDZHYAN, O., inzh.

Semiautomation and problems of a complete automation of the operations in the order and sales department of the Armelektrozavod. (Armenia--Industrial management) (Automatic control)

SARAPYAN, E.P., kand. tekhn. nauk; BAGRDZHYAN, O.G., inzh.

Automation of production control using computers. Elektrotekhnika 35 no.7:1-4 '64. (MIRA 17:11)

BAGRETSOV, V.F.

USSR /Chemical Technology. Chemical Products and Their Application I-14

Water treatment. Sewage water.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31740

Author : Bagretsov V.F.

Title : Interaction of Semi-Calcined Dolomite with Strontium Ions in Aqueous Solution

Orig Pub: Zh. neorgan. khimii, 1956, 1, No 1, 179-187

Abstract: The experiments were carried out with a solution containing radioactive Sr^{2+} (under static conditions). It was found that the most active product is obtained by calcination at 720-740°, for 2 hours. Removal of Sr^{2+} from the solution increases with increase in comminution of the

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USSR /Chemical Technology. Chemical Products and Their Application I-14

Water treatment. Sewage water.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31740

product, duration of contact and pH of the inital solution (up to a value of 9-10). Increase of the temperature above 30° decreases the removal of Sr^{2+}. Addition of salts containing anions which form difficulty soluble electrolytes with Ca^{2+} or Mg^{2+}, promotes precipitation of Sr^{2+}. The mechanism of interaction of the product with Sr^{2+}, is considered.

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BAGRETSOV, V.F.

PUSHKAREV, V.V., kand.khim.nauk; BAGRETSOV, V.F., kand.khim.nauk; KAZANTSEV, Ye.I., inzh.

Protecting natural waters from contamination with radioactive substances; some comments on the article by A.N.Marei.. Gig. i san. 22 no.11:73-74 N '57. (MIRA 11:1)

1. Iz Ural'skogo politekhnicheskogo instituta imeni S.M.Kirova.
(WATER--POLLUTION) (RADIOISOTOPES)

BAGRETSOV, V. F.

AUTHORS: Voznesenskiy, S. A., Pushkarev, V. V., Bagretsov, V. F. 78-1-43/43

TITLE: Sorption of Radioactive Isotopes by Aluminum Hydroxide (Sorbtsiya radioaktivnykh izotopov gidrookis'yu alyuminiya)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 1, pp.235-239 (USSR)

ABSTRACT: Micro concentrations of caesium-137, strontium-89-90, cerium--144 and ruthenium-106 were used as such isotopes. The object of the present investigation is the confirmation of the previous theoretical considerations (reference 1) according to the following mechanisms: 1) Ion exchange of adsorbed isotopes with potential-forming ions, or 2) Chemosorption (= chemical adsorption). In the case (1) the process can take place with charges of the same sign of the hydroxide-electrolyte and with the ions to be adsorbed, - in the case (2) with different charges. It may be assumed that the adsorption of the afore-said isotopes by aluminum oxide will be analogous to that by iron oxide with respect to its character. The

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isotopes were used as chlorides and without carrier. The deposit of hydroxide from aluminum chloride was obtained by 3 methods in view of investigating the influence of the ageing of the adsorbent on the value of adsorption of the radioactive micro-component. A) Aluminum-brine was produced by means of acetic acid in the radioactive solution, according to Gofman, and was (reference 3), subsequently coagulated, dried and centrifuged. The activity was determined in the stale solution. B) Isotopes were introduced into a ready hydroxide-sol; further see (A). C) The radioactive micro-components were introduced into the solution 1 hour after the coagulation; for the rest, see (A). Sodium sulphate was used for coagulation. The pH-value was adjusted by means of caustic alkali (0,05 n). The concentration of the radioactive micro-components exceeded in no case 5 μ Curie/ℓ . The adsorption is expressed in % of the initial activity in the tables and figures. The values of adsorption in pulses/minute/0,1 mg of the aluminum hydroxide are given in figure 6-6. The results in table 1 show that the addition of $Na_2SO_4.10\ H_2O$ up to 24,0 mg/100 ml exercises no influence on the value of adsorption under the given conditions. Only the complete-

ness of the aluminum-precipitation is influenced by the change of concentration of the precipitating agent (in accordance with reference 4, 5). The dependences of the values of adsorption of the radioactive micro-components on the pH of the milieu are given in figures 1 to 5. With pH 5,5 to 6,0 the adsorption of ruthenium and cerium increases suddenly, in order to attain its culminating point with pH 6,5 to 7,0. The same holds for strontium, however, with a culminating point at approximately 9,0 between pH 6,5 to 7,0. The maximum adsorption for ruthenium and strontium amounts to 99,0 to 99,8 % of the initial activity, the same with strontium of 70,0 % (test C) up to 100 % (test A). Caesium is not adsorbed under all test conditions. pH 6,9 corresponds to the isoelectric point of the aluminum-hydroxide-brine (reference 6). Consequently, ruthenium and cerium are adsorbed with a positive charge of the hydroxide , strontium, however, with a negative one. Taking account of the previous theoretical considerations (reference 1), it may be concluded that the ruthenium- and cerium ions are adsorbed simultaneous-

ly with the aluminum ions, in their property as potential--forming elements. The adsorption of the positively charged strontium on a negatively charged deposit takes place due to the formation of aluminate. It may be concluded from figure 6 to 8 that the adsorption takes place here within the range of the rectilinear part of the isothermal line. It is shown in table 2 that the adsorption of cerium and ruthenium increases with the temperature, whereas that of strontium-89 remains practically constant. Figures 1 to 3 prove that the adsorption of strontium decreases in the series of test conditions A - B - C. This is of importance for the purification of the radioactive waste waters from the laboratory by means of metallic hydroxides. There are 8 figures, 2 tables, and 6 references, all of which are Slavic.

ASSOCIATION: Ural Polytechnical Institute imeni S. M. Kirov, Sverdlovsk (Ural'skiy politekhnicheskiy institut im. S. M. Kirova, Sverdlovsk)

78-1-43/43

Sorption of Radioactive Isotopes by Aluminum Hydroxide

SUBMITTED: July 8, 1957

AVAILABLE: Library of Congress

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BAGRETSOV, V. F.

AUTHORS: Voznesenskiy, S. A. (Deceased), Bagretsov, V. F., Pushkarev, V. V. SOV/78-3-12-32/36

TITLE: The Interaction Between Semi-Calcined Dolomite and Strontium Ions in Aqueous Solution (Vzaimodeystviye poluobozhzhennogo dolomita s ionami strontsiya v vodnykh rastvorakh)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 12, pp 2801-2804 (USSR)

ABSTRACT: The adsorption of strontium on half-baked dolomite was investigated using the dynamic method, i.e., by filtering a strontium solution in micro concentrates through a column packed with dolomite. The dolomite used for filtering had been baked at 720-750°. The micro amounts of strontium adsorbed were determined using the radiometric method. The solution of radioactive Sr^{89} was filtered through the filter of magnesium mass. The relationship between the adsorption and the size of the filter layer and time of contact was investigated. The results showed that with a constant filtration velocity an increase in the filter layer can increase the adsorption of strontium

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The Interaction Between Semi-Calcined Dolomite and Strontium Ions in Aqueous Solution

up to 56%. The adsorption of the strontium depends upon the grain size of the dolomite mass, so that with coarse dolomite crystals the adsorption is 22%, whereas it is 44% with fine crystals. In filtering strongly alkaline strontium solutions (1n NH_4OH and 1n NaOH) it was found that the 1n NH_4OH solution required a relatively longer time for constant adsorption, whereas the adsorption from the NaOH strontium solution was zero. The adsorption of strontium on the dolomite mass is chemisorptive in nature. The adsorption is greater in the presence of anions which form salts of low solubility with strontium. There are 6 tables and 3 Soviet references.

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S. M. Kirova (Ural Polytechnical Institute imeni S. M. Kirov)

SUBMITTED: November 3, 1957

PUSHKAREV, V.V.; SKRYLEV, L.D.; BAGRETSOV, V.F.

Concentrating radioactive cesium by extraction with gelatin foam. Radiokhimiia 1 no.6:709-711 '59. (MIRA 13:4)
(Cesium--Isotopes) (Gelatin)

BAGRETSOV, V.F.; PUSHKAREV, V.V.

Interaction between half-burnt dolomite ($MgO.CaCO_3$) and various elements present in trace concentrations in aqueous solutions. Radiotekhmiia 2 no.4:446-450 '60. (MIRA 13:9)
(Dolomite)

24095

S/186/60/002/006/020/026
A051/A129

26.2541

AUTHORS: Bagretsov, V. F.; Nikolayev, V. M.; Zolotavin, V. L.; Kostina, N.P.; Skorova, L. V.

TITLE: The sorption of microquantities of strontium and cesium on biotite

PERIODICAL: Radiokhimiya, v. 2, no. 6, 1960 734 - 738

TEXT: In a study of the sorption processes of strontium-90 and cesium--134 microquantities on biotite in the presence of macroquantities of alkali-earth metal and magnesium ions, the exchange equivalent and the applicability of the law of acting masses to the investigated system was established. The authors point out that the quantitative laws of ion exchange are expressed through the exchange isotherm. In deriving an equation for the ion exchange isotherm the activity coefficient of the microcomponent ion must be taken into consideration. The distribution coefficient concept (Ref. 12: S. Yu. Yelovich, ZhOKh, 3, 144, 660, 1933) is used. In case of sorption exchange of the microquantities of the element on the sorbent saturated by the macrocomponent, the ratio of the activity coefficients in the solid phase is a constant value, since the composition

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of the solid solution changes very little, although the ionic strength of the solution can change here. Thus, the exchange constants are calculated for the investigated systems by determining B_0 from experimental data. Biotite of the following composition was used in the experiments: SiO_2-35.74, Al_2O_3-13.92, Fe_2O_3-5.83, FeO-19.67, MnO-1.48, TiO_2-3.89, BaO-0.18, CaO-0.74, MgO-5.93, $K_2O + Rb_2O + Cs_2O$ - 4.03, Na_2O - 3.38. The activity coefficient of the ions were taken from literature data (Ref. 13: M. Kh. Karapet'yants, Khimicheskaya termodinamika. (Chemical thermodynamics). Goskhimizdat, M.-L., 1953). The given isotherms of distribution show that the experimental results coincide favorably with the calculations, i. e., the interaction of cesium^{134} and strontium^{90} with biotite follows the law of acting masses. The value of G was found to be $1.013 \cdot 10^{-5}$ mole Me^{2+} to 1 gram of sorbent. An anomalous bond strength was noted between the cesium ions and the sorbent. Finally, the following series of cation replacement on the biotite was derived from the calculated values of the exchange constants: $Cs^{+} > Ba^{2+} > Sr^{2+} > Ca^{2+} > Mg^{2+}$. There are 2 tables, 2 figures and 16 references: 8 Soviet-bloc and 8 non-Soviet-bloc. The references to the four most recent English language publications read as follows: A. P. Vanselow, J. Am.

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24095

The sorption of microquantities of ....

S/186/60/002/006/020/026
A031/A129

Chem. Soc., 54, 1307, 1932; A. F. Vanselow, Soil. Sci. 33, 95, 1932; J. Barchad, J. Am. Min., 33, 655, 1948; J. Barchad, J. Am. Min., 34, 675, 1949.

SUBMITTED: January 18, 1960.

X

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85718

S/089/60/009/003/016/016/XX
B006/B063

21.3300

AUTHORS: Voznesenskiy, S. A. (Deceased), Sereda, G. A., Baskov, L. I., Tkachenko, Ye. V., Bagretsov, V. F.

TITLE: The Problem of Flotation in Decontamination of Radioactive Effluents

PERIODICAL: Atomnaya energiya, 1960, Vol. 9, No. 3, pp. 208 - 213

TEXT: The present paper gives the results of experiments on flotation with iron hydroxide in radioactively contaminated effluents which were artificially produced and contained the following uranium fission fragments: Sr^{90}, Pm^{147}, and Ru^{106} - Rh^{106} as chlorides, Zr^{95} - Nb^{95} as oxalates in solution. All preparations examined were free of carriers, and chemically and radiochemically pure. The initial specific activity of the deposit was 0.03 - 1.0 microcurie referred to 1 g of iron hydroxide. The deposit (iron hydroxide plus adsorbed isotopes) was brought to float in samples of 100 ml in a laboratory apparatus (500 ml; 4300 - 5000 r.p.m.). All experiments were made at a mixing rate of 4600 r.p.m. (2 min) which

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The Problem of Flotation in Decontamination of Radioactive Effluents

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proved to be an optimum in previous tests. Each experiment was performed three or four times at 17-19°C. They were intended to determine the coefficient of flotation K_{fl} (measure for the reduction of the deposit volume). Results are diagrammatically shown. First, the optimum amount of the flotation reagent per gram of floating iron hydroxide deposit was determined (amount of deposit: 7 g/l; solution: pH=8.5). Fig. 1 shows K_{fl} as a function of the amount of the flotation reagent. The optimum amount is 1 g per 1 g of $Fe(OH)_3$. Further additions did not increase K_{fl}. The pH of the solution has a considerable effect on K_{fl}. Fig. 2 shows the effect of the amount of NaOH upon K_{fl}. The peak value of K_{fl} (~8.0) is reached in a neutral medium. At 300 mg/l and more, $K_{fl} \approx 3.8$ and is independent of the pH. Fig. 3 shows K_{fl} as a function of the concentration of iron hydroxide in the suspension. K_{fl} first drops with an increase of concentration and remains constant at about 8 g/l. Furthermore, the authors studied the effect of aging of the iron hydroxide deposit upon

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The Problem of Flotation in Decontamination of Radioactive Effluents

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flotation (Table 2). This table indicates that the time of flotation required for 2000 r.p.m. increases with the age of the deposit. The authors also studied the effect of various anions and cations, particularly Ca^{2+} and CO_3^{2-}, upon the froth stability. The results of the respective experiments are illustrated in Figs. 4 and 5. Table 3 lists the values of activity in the solutions in per cent:

Isotope	Initial solution	Solution after coagulation	Solution after flotation
Ru^{106}-Rh^{106}	100	37.60	-1.27
Pm^{147}	100	0.40	-0.03
Sr^{90}	100	6.50	+0.02
Zr^{95}-Nb^{95}	100	1.10	+0.01

The negative sign indicates that during flotation part of radioactivity passed over from the deposit into the solution, while the positive sign indicates the reverse process. The results are finally discussed in

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detail. As there is no significant desorption of radioisotopes during flotation, the authors' method appears to be very encouraging. The flotation reagents had been made available by V. G. Plyusnin of the Institut khimii UFANa (~~Institute of Chemistry of~~ UFAN). There are 5 figures, 3 tables, and 11 references: 5 Soviet and 5 US.

SUBMITTED: March 26, 1959

Card 4/4

18.3000

77501
SOV/80-33-1-10/49

AUTHORS: Pushkarev, V. V., Skrylev, L. D., Bagretsov, V. F.

TITLE: Recovery of Mixed Ferrocyanides of Heavy Metals from Hydrosols and Suspensions

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 1, pp 59-61 (USSR)

ABSTRACT: This is the first communication from a series of articles on the use of gelatinous foam for concentration of radioactive cesium solutions. In this work the authors studied separation of colloidal and precipitated ferrocyanides ($K_2Mn\ Fe(CN)_6$, $K_4Co_{10}\ Fe(CN)_{6\ 6}$, $K_4Ni_4\ Fe(CN)_{6\ 3}$, $K_2Zn_3\ Fe(CN)_{6\ 2}$, and $K_2Cu_3\ Fe(CN)_{6\ 2}$) and $Pb_2\ Fe(CN)_6$ from their solutions by means of gelatin foam. Solutions of potassium ferrocyanide and of the respective metal salts were added to 200 ml of distilled water. After addition of 1% of freshly prepared gelatin solution, the volume of the suspension was brought up to 300 ml,

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and the solution was mixed and poured into the foam apparatus shown in Fig. 1. Recovery of the solid phase (colloidal particles and precipitate) was complete after 3-4 min of foaming (since the ferrocyanides are colored, their separation from the solution could be easily seen). Relation between solid phase concentration and minimum quantity of gelatin necessary for the complete recovery of the former is illustrated in Fig. 2. The necessary volume of gelatin solution also depends upon the pH value of the ferrocyanide solution. A neutral or weakly acidic medium was found to be most favorable in the recovery process. For complete recovery of 50 mg of $K_4Ni_4\ Fe(CN)_6{}_3$, the volume of the 1% gelatin solution could be decreased 6-fold (from 9.0 ml to 1.5 ml) by changing pH of the solution from 2 to 5. There are 2 figures; and 7 Soviet references.

ASSOCIATION: Ural S. M. Kirov Polytechnic Institute (Ural'skiy politekhnicheskiy institut imeni S. M. Kirova)

SUBMITTED: December 29, 1958

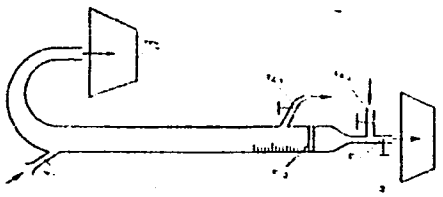

Fig. 1. Apparatus for recovery of mixed ferrocyanides of heavy metals by foaming. (1) Inlet opening for introduction of initial solution; (2) glass filter Nr 3, (3) foam receiving vessel; (4) vessel for receiving filtrate; (5) stopcock for air feed (under 1.5 atm pressure); (6) stopcock for withdrawal of test samples; (7) stopcock for discharge of filtrate.

Recovery of Mixed Ferrocyanides of Heavy Metals from Hydrosols and Suspensions

77501, SOV/80-33-1-10/49

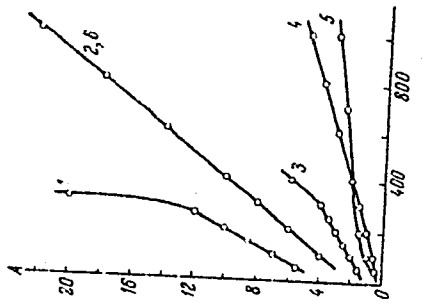

Fig. 2. Effect of concentration of mixed ferrocyanides upon volume of 1% gelatin solution necessary for complete recovery of precipitate by frothing, at pH of initial solution = 4.6. (A) Volume of 1% gelatin solution (in ml); (B) quantity of precipitate (in mg/l). (1) $K_2Zn_3[Fe(CN)_6]_2$; (2) $K_2Cu_3[Fe(CN)_6]_2$; (3) $K_4Ni_4[Fe(CN)_6]_3$; (4) $K_2Mn[Fe(CN)_6]$; (5) $Pb_2[Fe(CN)_6]$; (6) $K_4Co_{10}[Fe(CN)_6]_6$.

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5.2300,21.3200

77506
SOV/80-33-1-15/49

AUTHORS: Pushkarev, V. V., Skrylev, L. D., Bagretsov, V. F.

TITLE: Extraction of Radioactive Cesium by Mixed Ferrocyanides of Heavy Metals

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 1, pp 81-85 (USSR)

ABSTRACT: This is the second communication of a series on the gelatin foam method of concentrating radioactive cesium solutions. The first study, which also describes the laboratory apparatus and the preparation of some reagents, is printed on p 59 of this issue (see also Abstract 77501). Radioactive cesium was absorbed by mixed ferrocyanides such as $K_2Mn[Fe(CN)_6]$; $K_4Co_{10}[Fe(CN)_6]_6$; $K_4Ni_4[Fe(CN)_6]_3$; $K_2Cu_3[Fe(CN)_6]_2$; $K_2Zn_3[Fe(CN)_6]_2$; $Pb_2[Fe(CN)_6]$. The solid phase was then separated from the solution by centrifuging at 3,000 rpm in a laboratory centrifuge, or by frothing the

Card 1/7

solution with compressed air and collecting the foam with the entrapped Cs^{134}-containing precipitate. 1% gelatin and 50% excess of ferrocyanide were used as coagulating agents. The marked effect of the pH of the solution on the extraction is shown in Figs. 1 to 6; full lines designate the foam extraction, dotted lines designate the centrifuging extraction; A is the Cs extraction (in %); and B is the pH value. It was also established that a low concentration of the adsorbent (60 mg/liter) already gave a maximum degree of radioactive cesium extraction. The amount of the solution carried off as foam was approximately 1 to 1.4% of the initial solution volume. Practically 100% extraction was obtained from a solution with pH = 7 in a three-stage procedure. The first extraction yielded 98.84% cesium; the remaining solution was treated with ferrocyanide and gelatin in the same amounts as previously, and the second frothing extracted 89.07% of the remaining cesium. Finally, a third frothing gave 81.98% of the cesium remaining after the second operation, and the total extraction amounted to

Extraction of Radioactive Cesium by Mixed Ferrocyanides of Heavy Metals

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SOV/80-33-1-15/49

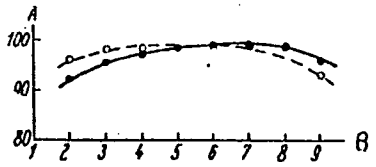

Fig. 1. Effect of the initial solution's pH on the extraction of Cs^{134} by mixed copper ferrocyanide.

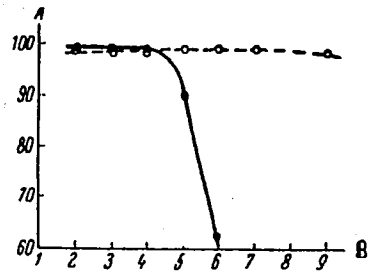

Fig. 2. Effect of the initial solution's pH on the extraction of Cs^{134} by mixed nickel ferrocyanide.

Card 3/7

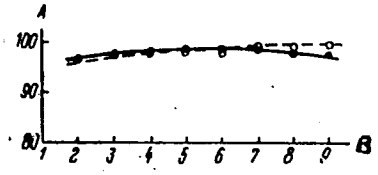

Fig. 3. Effect of the initial solution's pH on the extraction of Cs^{134} by mixed cobalt ferrocyanide.

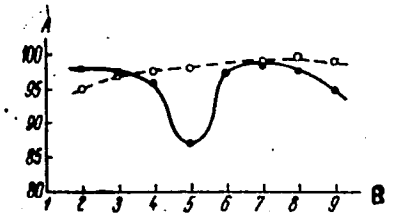

Fig. 4. Effect of the initial solution's pH on the extraction of Cs^{134} by mixed manganese ferrocyanide.

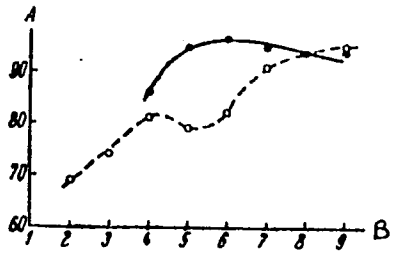

Fig. 5. Effect of the initial solution's pH on the extraction of Cs^{134} by mixed zinc ferrocyanide.

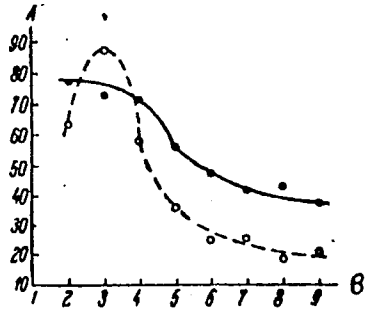

Fig. 6. Effect of the initial solution's pH on the extraction of Cs^{134} by mixed lead ferrocyanide.

99.98%. The authors express their appreciation to Professor S. G. Mokrushin for his valuable remarks before the manuscript was presented for printing. There are 6 figures; 1 table; and 6 references, 1 U.S., 5 Soviet. The U.S. reference is: E. Glueckauf, Long-Term Aspects of Fission Products Disposal, International Conference on the Peaceful Use of Atomic Energy (1955).

ASSOCIATION: Ural Polytechnic Institute imeni S. M. Kirov (Ural'skiy politekhnicheskiy institut imeni S. M. Kirova)

SUBMITTED: December 29, 1959 (Abstracter's Note: probably 1958)

VOZNESENSKIY, S. A.[deceased]; BAGRETSOV, V. F.; PUSHKAREV, V. V.; ZOLOTAVIN, V. L.

Interaction of half-burnt dolomite with radioisotopes under dynamic conditions. Radiokhimia 3 no.4:510-511 '61. (MIRA 14:7)

(Dolomites)
(Radioisotopes)

BAGRETSOV, V.F.; PUSHKAREV, V.V.; BEKETOV, A.R.; NIKOLAYEV, V.M.

Effect of roasting on the ion-exchange capacity of vermiculite.
Zhur.prikl.khim. 34 no.11:2558-2560 N '61. (MIRA 15:1)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(Vermiculite) (Ion exchange)

NIKOLAYEV, V.M.; BAGRETSOV, V.F.; KALMYKOV, Yu.A.

Effect of various methods of treatment on the ion-exchange properties of vermiculite. Report No.1: Breakdown of vermiculite by acid solutions. Trudy Ural.politekh.inst.no.121:30-34 '62.

(MIRA 16:5)

(Vermiculite) (Ion exchange)

BAGRETSOV, V.F.; NIKOLAYEV, V.M.; KALMYKOV, Yu.A.; PUSHKAREV, V.V.

Effect of various methods of treatment on the ion-exchange properties of vermiculite. Report No.2: Reaction of vermiculite with solutions of alkalies and neutral salts. Trudy Ural.politekh.inst.no.121:35-38 '62.

(MIRA 16:5)

(Vermiculite) (Alkalies) (Salt)

NIKOLAYEV, V.M.; BAGRETSOV, V.F.; BEKETOV, A.R.

Kinetics of ion exchange on vermiculite. Zhur.prikl.khim. 35 no.11: 2414-2420 N '62. (MIRA 15:12)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(Ion exchange) (Vermiculite)

S/186/63/005/001/002/013
E075/E436

AUTHORS: Nikolayev, V.M., Bagretsov, V.F., Lebedev, V.M.

TITLE: Sorption of microquantities of strontium and cesium by vermiculite

PERIODICAL: Radiokhimiya, v.5, no.1, 1963, 32-37

TEXT: The sorption of Sr^{90} and Cs^{134} by vermiculite from alkali and alkali-earth metal chloride solutions was studied. The sorption by cation exchanger КУ-2 (KU-2) was investigated for comparison. The sorption on vermiculite did not depend on the pH of the solutions in the range of 3 to 11. The results of the experiments are satisfactorily expressed by S.Yu.Yelovich and L.G.Kuz'mina's equation (Kolloidn. zhurn., v.18, no.3, 1956, 268) made more accurate by the authors (Radiokhimiya, v.2, no.6, 1960, 734). The results for the sorption in the presence of ions belonging to group I and II confirm its ion-exchange character, the sorption being governed by the law of mass action. Ce was sorbed by vermiculite exceptionally strongly, which is explained by the high polarizability of Ce ion and the volume of hydrated Ce ion being similar to that of hexagonal voids in the vermiculite

Card 1/2

Sorption of microquantities ...

lattice. There are 5 figures and 5 tables.

SUBMITTED: December 6, 1961

Card 2/2

NIKOLAYEV, V.M.; BAGRETSOV, V.F.; LEBEDEV, V.M.

Reaction of the substitution of magnesium and aluminum ions for hydrogen ions in vermiculite. Pochvovedenie no.8:68-72 Ag '63. (MIRA 16:9)

1. Ural'skiy politekhnicheskiy institut imeni Kirova.

NIKOLAYEV, V.M.; BAGRETSOV, V.F.; KALMYKOV, Yu.A.

Effect of multiple treatments with an acid on the cation exchange capacity of vermiculite. Zhur.prikl.khim. 36 no.3:692-693 My '63. (MIRA 16:5)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(Vermiculite) (Ion exchange)

NIKOLAYEV, V.M.; KRYLOV, Ye.I.; BAGRETSOV, V.F.; YEGOROV, Yu.V.

Behavior of radiocolloids of cerium in sorption systems.
Radiokhimiia 5 no.5:622-626 '63. (MIRA 17:3)

PUSHKAREV, V.V.; BAGRETSOV, V.F.; PUZAKO, V.D.; Prinimal uchastiye: KAN, A.V.

Separation of strontium-90 and yttrium-90 with the aid of gelatin foam. Radiokhimiia 6 no. 1:120-121 '64. (MIRA 17:6)

NIKOLAYEV, V.M.; BAGRETSOV, V.F.; KHYLOV, Ye.I.; ROGOV, V.N.

Sorption of microquantities of cesium 134 by vermiculite under dynamic conditions. Zhur.prikl.khim. 37 no.7:1435-1442 Jl '64. (MIRA 18:4)

RUZHAL'SKIY, Yu.I., inzh.; BAGRETSOV, Ye.D., inzh.

Lined air tuyere in blast furnaces. Stal' 24 no.7:595-596 Jl '64.
(MIRA 18:1)

1. Metallurgicheskiy zavod "Svobodnyy sokol".

66909

15.9000

25(1)

SOV/29-59-11-28/31

AUTHORS: Bagretsova, I., Vlasova, Z., Engineers of the Scientific Research Institute of the Tire Industry

TITLE: Metallocord

PERIODICAL: Tekhnika molodezhi, 1959, Nr 11, p 37 (USSR)

ABSTRACT: The authors report on the use of metallocord for tire production. The durability of metallocord is 5 times higher than that of viscose-, and 3 times higher than that of caprone cord. Tires can be produced 2- to 4-ply instead of 8- to 14-ply as is usual for textile tires. Metallocord tires can stand a higher load. Because of the lower thickness of tread, and good heat conductivity of the metallocord, it is possible to use thicker protectors. As the metallocord does not stretch, the wear of tires and treads becomes smaller. Steel is used as basic material for the production of metallocord. Differently thick ropes are twisted from steel wire 0.15 mm thick. These ropes are wound over a rubber layer onto a special drum, and covered and rolled with another rubber layer of the same thickness. The pressed metallocord is then used for the tire production. There are two types of tires possible: standard tires with the cord

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Metallocord

66909

SOV/29-59-11-28/31

threads intersecting at an angle of about 90°, and tires where the cord runs meridionally.- The Omsk Tire Factory was established in the first years of the National War. The factory employs several thousands of workers. Production was quadrupled in the first 10 postwar years. In the meantime, the old machinery was completed and replaced. This allowed a further production increase of 30% in the past 3 years. A number of talented inventors and efficiency experts grew up in the factory, including A. Gavrilov, A. Kol'tsov, V. Guzeyev, I. Klimov; B. Markov and K. Mishin, mechanics; T. Terekhova and G. Limovetskiy, engineers; V. Sapronov, M. Gil'shteyn, V. Filippov, technical engineers, and others. About 4,000 inventions and efficiency suggestions have been realized in recent years. This resulted in savings of 25 million rubles for the factory. The factory will soon start production of metallocord tires. There are 3 figures and 1 table.

4

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

Card 2/2

S/138/60/000/01/02/010

AUTHORS: Bogayevskiy, A.P., Desidley, L.V., Bagretsova, I.P.

TITLE: Tires With Meridional Arrangement of Cord Strands in Carcass

PERIODICAL: Kauchuk i Rezina, 1960, No. 1, pp. 6 - 10

TEXT: The article describes design and characteristic features of tire with meridional arrangement of cord strands, as invented by Michelin and first produced in 1947 under the designation "type X". Under a licence issued by Michelin the same tire is produced in various European countries and in the USA by Goodyear and Firestone. After enumerating the advantages of this new construction over the conventional design, the author gives a brief survey of the development work pursued in the USSR by the NIIShP, which in the first place aims at setting up a new technology of production providing for two distinct phases, viz. assembling and expanding of the carcass and secondly application of breaker and tread on the formed carcass. Tires of the new type produced for experimental purposes are being tested in regard to serviceableness, roadability, resistance, lateral strength, efficiency etc. Preliminary results of laboratory tests are given in Table 3 showing that these tires have a lower temperature, greater radial deformation, and less specific

Card 1/2

Tires With Meridional Arrangement of Cord Strands in Carcass

pressure on the surface of contact, which results in reduced wear of tread. Further development work is being conducted with a view to producing new special types of tires, making allowance for the characteristics of the new design. Another task in connection with production consists in developing new special rubber ensuring sufficient rigidity and cohesion of side walls. Special plant equipment needed for industrial production of the new tires needs also to be developed. Tentative calculations regarding cost of material and production based on literature data show that the production of tires with meridional arrangement of cord strands presents considerable interest from an economical point of view due to saving of material and an increase of the roadability of the tires. There are 1 photo, 2 diagrams and 3 tables.

ASSOCIATION: NIIShP (Scientific Research Institute of the Tire Industry)

USSR/Cultivated Plants. Fodder Plants. M

Abs Jour : Ref Zhur-Biol., No 15, 1958, 68232

Author : Bagrov, Ye.
Inst : Polesia Experiment and Amelioration Station. Kasausk Swamp Experiment Station.
Title : Fodder Lupine in Polesia.

Orig Pub : Sel'sk. gaspadarska Belarusi, 1957, No 11, 37

Abstract : At the complex Polesia Experiment and Amelioration Station and the Kasausk Swamp Experiment Station, both of which have sandy soils, sowing early on 20 April gave the highest yields of fodder lupine (Veyka variety). When sowing was postponed for one month, the yield of lupine green mass was reduced by 53 centners/hectare, and of seed by 11.1 centners/hectare. The

Card : 1/2

Abs Jour : Ref Zhur-Biol., No 15, 1958, 68232

highest yield of fodder lupine on peat soil (465.5 centners/hectare of green mass, and 21.1 centners/hectare of seed) was obtained by adding 3 centners/hectare of K_a and 4.5 centners/hectare of P_c. The sowing norm of fodder lupine was 2.5 centners/hectare, when the row method was used and the seed was set at a depth of 2.5 cm. -- M. K. Doulina

BAGREYEV, Anatoliy Dmitriyevich, dotsent, kand.voyennykh nauk, polkovnik; ALEKSEYEV, M.A., polkovnik, red.; VOLKOVA, V.Ye., tekhn.red.

[Military science of capitalist countries, 1939-1945] Voennoe iskusstvo kapitalisticheskikh gosudarstv, 1939-1945 gg. Moskva, Voen.izd-vo M-va obor.SSSR, 1960. 276 p. [Diagrams] Skhemy. (MIRA 14:2)
(Military art and science)
(World War, 1939-1945)

S/035/61/000/006/038/044
A001/A101

AUTHOR: Bagreyev, A.I.

TITLE: On constructing the 1:10,000 geodetic survey network

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 6, 1961, 13-14, abstract 6G120 ("Tr. Belorussk. s.-kh. akad.", 1959, v. 30, no. 2, 96 - 107)

TEXT: The author describes the experience on constructing a geodetic network for 1:10,000 survey by the method of quadrangles without diagonals on the territory of the experimental farm of the Bellorussion Agricultural Academy. On the 33-km^2 area was constructed a network of 27 quadrangles and 1 triangle (45 points); the average length of the figure sides was $\sim$ 1 km. Linear measurements were performed with a 20-m steel tape; each line was measured twice; the staking out was made by means of a theodolite; ends of the tape were fixed by knives. 17 sides were measured in the network; the average relative error of measurement was 1:7,700. Measurement of angles was performed with a TT-50 theodolite by the repetition method; the root-mean-square error of angles, calculated from closures of the figures, was $\pm$ 8".0. The author presents formulae for calculating corrections

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On constructing the 1:10,000 geodetic survey network

S/035/61/000/006/038/044
A001/A101

to measured lines and angles of a quadrangle for conversion to a plane in Gauss projection, and values of these corrections for the constructed network. The problem is considered on the accuracy of calculating angular corrections for conversion to a plane in Gauss projection.

I. Polunin

[Abstracter's note: Complete translation]

Card 2/2

AUTHORS: Kozlov, A. S., Bagreyev, V. V. SOV/156-58-2-24/48

TITLE: A New Titrimetric Method for the Determination of Copper by Means of Potassium-Ferrocyanogen (Novyy titrimetricheskiy metod opredeleniya medi pri pomoshchi ferrotsianida kaliya)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 2, pp. 300-304 (USSR)

ABSTRACT: The composition of the deposits which are formed in connection with the action of soluble ferrocyanogens on copper salts in a neutral or acid medium is variable and depends on many factors (Refs 1-10). The first author found (Ref 11) that a crystalline compound of low solubility: $(NH_4)_2CuFe(CN)_6$ is formed with a certain ratio in the system $Cu^{2+} - NH_4^+ - NH_4OH - Fe(Cn)_6^{4-} - H_2O$. It was presumed that it can be used for the determination of copper. In order to determine precisely the range of existence of the last-mentioned compound, and to work out the conditions of the titrimetric determination of copper, 3 test series with a constant concentration of both copper and ammonia, and variable quantities of $K_4Fe(CN)_6$ were carried out. As can be seen

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from table 1, deposits of $(NH_4)_2CuFe(CN)_6$ are formed in all 5 series in the case of an excess of the depositing ferrocyanogen. A double salt is formed in the case of a small excess of copper-ions in the initial mixture. The deposit of $(NH_4)_2CuFe(CN)_6$ precipitates consequently the easier the lower the concentration of the excessive copper-ions is and the more intensely the solution is diluted. The red deposit passes the more rapidly over into a greenish-brown one in the case of an excess of copper in the mother solution. If the precipitation takes place under an excess of ferrocyanogen, the above change does not take place. $(NH_4)_2CuFe(CN)_6$ is an intermediary product which is characteristic for the metastable state of the Cu^{2+} - NH_4^+ - NH_4CH - $Fe(Cn)_6^{4+}$ - H_2O-system. Nevertheless, this compound can be used for the titrimetric determination of copper if an excess of $K_4Fe(CN)_6$ is added to a weakly ammoniacal solution of the sample to be investigated and by titrating the residue of the non-reacted ferrocyanogen. $KMnO_4$ or $CeSO_4$ is to be added in

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A New Titrimetric Method for the Determination of Copper by Means of Potassium-Ferrocyanogen SOV/156-58-2-24/48

solution is used for this purpose in an aliquot filtrate portion. Finally, the process of analysis is described. Table 2 shows the determination of copper in oxidized copper-ores. The error is within ± 0.25%. Alkaline metals, small quantities of alkaline earths, and magnesium do not exercise a disturbing effect. Heavy metals which form insoluble ferrocyanogens must not be present. There are 2 tables and 13 references, 6 of which are Soviet.

ASSOCIATION: Kafedra analiticheskoy khimii Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Chair of Analytical Chemistry of Moscow State University imeni M. V. Lomonosov)

SUBMITTED: October 29, 1957

Card 3/3

SAVVIN, S.B.; BAGREYEV, V.V.

Photometric determination of thorium in rocks by means of arsenazo. Part 3. Zav.lab. no.4:412-415 '60.
(MIRA 13:6)

1. Institut geokhimii i analiticheskoy khimii Akademii nauk SSSR.
(Thorium--Analysis) (Rocks--Analysis) (Arsenazo)

S/075/60/015/004/014/030/XX
B020/B064

AUTHORS: Savvin, S. B., Volynets, M. P., Babashov, Yu. A., and Bagreyev, V. V.

TITLE: Photometric Determination of Microquantities of Thorium in Rocks by Means of Arsenazo II

PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol. 15, No. 4, pp. 446 - 451

TEXT: The reagent arsenazo II is an improved analog of the reagent arsenazo (Uranon) (Ref. 6); its synthesis has been described in Ref. 1. Arsenazo II has a number of advantages over arsenazo I and many other reagents suggested for determining thorium; its chief advantage is that Th can be determined in sufficiently acid solutions (0.1 - 0.6 N HCl), and in the presence of rare earths, sulfates, phosphates, etc. In acid solutions arsenazo II reacts with Th, Zr, Ti, U^{IV}, and Fe^{III}, in weakly acid and neutral solutions with Al, U^{VI}, Cr, Cu, ΣTR, etc. Fig. 1 shows the absorption curve of the reagent and its Th compound. The selectivity of

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Photometric Determination of Microquantities of Thorium in Rocks by Means of Arsenazo II

S/075/60/015/004/014/030/XX
B020/B064

determining Th with arsenazo II is also warranted by the proper choice of the acid concentration and the use of masking substances. In 0.2 N HCl, the effect of almost all other elements is reduced to a minimum, and the masking of thorium by phosphates and sulfates is still slight. Large amounts of Zr and Ti have a disturbing effect, small amounts can be masked by adding of phosphates. 2γ Ti, 3γ Zr, 4-8γ Nb, and Ta, 5γ Fe^{III}, 5γ Cr^{III}, 5γ Mo, V, and W, 40γ U^{VI}, 0.5 - 1 mg Al, and 10 - 150 mg K, Na, Ca, Mg, ΣTR, and Fe^{II} do not affect the determination of 10γ Th. The limit is 5 - 10γ Th. The analyzed substance is decomposed by two- or threefold evaporation with hydrofluoric acid, the majority of Zr, Ti, Nb, Ta, Al, Fe, U^{VI} are separated by the formation of soluble fluoride complexes, and thorium is precipitated together with the rare earths and calcium which are its carrier substances. Variants of the separation method are given. In the fluoride method, precipitation is repeated by the action of hydrofluoric acid upon the hydroxide precipitate obtained after the dissolution of the first fluoride precipitate in hydrochloric acid and precipitation in ammonia. In the fluoride-oxalate method, after the decomposition of the

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sample with fluorides and removal of the fluoride ion by evaporation with $HCl+HClO_4$, homogeneous coprecipitation of thorium with the oxalates of rare earths or calcium with acetone dioxalic acid was carried out at the acid concentration suggested by V. I. Kuznetsov and I. V. Nikol'skaya (Ref. 7), and F. V. Zaykovskiy and L. I. Gerkhardt (Ref. 8) for calcium. The oxalates were filtered off, annealed, the oxides dissolved in HCl(1:10), and thorium photometrically determined with arsenazo II. The analysis took one day. The chromatographic separation of the impurities by ion exchange on the Soviet resin KY-2 (KU-2) in the H-form (100 mesh) is described. Table 1 shows the ratio between thorium and some impurities before and after separation, thus proving that all separation methods examined give satisfactory results. The degree of thorium extraction was determined by means of its radioisotope UXI and by measuring the soft β-radiation UXII with which it is in equilibrium. The total thorium losses amount to a maximum of 12-14%. Table 2 shows the results of thorium determinations by the three methods mentioned. They indicate that two methods, i.e., double fluoride precipitation (time of analysis, 6-8 hours) and fluoride-oxalate precipitation (time of analysis, 24 hours) can be recommended. Fig. 1

Photometric Determination of Microquantities of Thorium in Rocks by Means of Arsenazo II

S/075/60/015/004/014/030/XX
B020/B064

shows the absorption curve of a $2.5.10^{-5}$ M arsenazo II solution and a Th-arsenazo II solution of the same concentration. Fig. 2 shows a calibration curve for thorium. There are 2 figures, 2 tables, and 12 references: 10 Soviet and 2 US.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V.I.Vernadskogo AN SSSR, Moskva (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy of the AS USSR, Moscow)

SUBMITTED: June 1, 1959

Card 4/4

BAGREYEV, V.V.

Calculating beams for the effect of deflecting impact. Trudy MIIT no.94:143-149 '57. (MIRA 11:5)

(Girders) (Impact)

RAGHEYEV, V.F.

Determining the interacting forces resulting from the collision of two spheres taking into consideration plastic deformations. Trudy MIIT no.94:167-176 '57. (MIRA 11:5)
(Elastic solids) (Impact)

SOV/124-58-7-7968 D

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 7, p 96 (USSR)

AUTHOR: Bagreyev, V.V.

TITLE: An Investigation of the Bending Impact of a Weight Striking Against a Beam (Issledovaniye izgibayushchego udara gruza o balku)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to the Mosk. in-t inzh. zh.-d. transp. (Moscow Institute for Rail Transportation Engineering), Moscow, 1958

ASSOCIATION: Mosk. in-t inzh. zh.-d. transp. (Moscow Institute for Rail Transportation Engineering), Moscow

1. Beams--Theory 2. Beams--Deformation 3. Impact shock--Analysis

Card 1/1

STOROZHEV, Lev Petrovich; BAGREYEV, V.V., nauchnyy red.; ITSKEVICH, G.M., nauchnyy red.; DEMINA, G.A., red.; PERSON, M.N., tekhn.red.

[Collected problems on theoretical mechanics and theory of mechanisms and machines] Sbornik zadach po teoreticheskoi mekhanike i elementam teorii mekhanizmov i mashin. Moskva, Vses. uchebno-pedagog.izd-vo Trudrezervizdat, 1959. 307 p. (MIRA 13:1)
(Mechanics--Problems, exercises, etc.)
(Mechanical engineering--Problems, exercises, etc.)

BAGREYEV, V.V., kand.tekhn.nauk

Determining flexural stresses in beams caused by concentrated impact loading. Trudy MIIT no.102:78-90 '59. (MIRA 12:10)
(Girders)

BELYAVSKIY, Samuil Moiseyevich; BAGREYEV, V.V., nauchnyy red.; SHAURAK, Ye.N., red.; ERASTOVA, N.V., tekhn.red.

[Theoretical mechanics and fundamentals of the theory of mechanisms and machinery] Teoreticheskaia mekhanika s elementami teorii mekhanizmov i mashin. Leningrad, Gos.soiuznoe izd-vo sudostroit.promyshl., 1960. 455 p.

(MIRA 13:12)

(Mechanics, Analytic) (Mechanical engineering)

SAVVIN, S.B.; VOLYNETS, M.P.; BALASHOV, Yu.A. BAGREYEV, V.V.

Photometric determination of microquantities of thorium in rocks with arsenazo II. Zhur.anal.khim. 15 no.4:446-451 Jl-Ag '60. (MIRA 13:9)

1. V.I.Vernadsky Institute of Geochemistry and Analytical Chemistry, Academy of Sciences, U.S.S.R., Moscow.
(Thorium--Analysis) (Arsenazo)

LEONOVA, L.L.; GAVRILIN, R.D.; BAGREYEV, V.V.

Behavior of uranium and thorium in the intrusive complex of increased alkalinity as revealed by the Kzyl-Ompul Massif in the northern Tien-Shan. Geokhimiia no.12:1053-1058 '61. (MIRA 15:3)

1. Vernadskiy Institut of Geochemistry and Analytical Chemistry, Academy of Sciences U.S.S.R., Moscow.
(Tien-Shan--Uranium) (Tien-Shan--Thorium)

BAGREYEV, V.V.; ZOLOTOV, Yu.A.

Effect of the nature of the organic solvent on the extraction of inner-complex compounds of thallium. Zhur.anal.khim. 17 no.7:852-857 O '62. (MIRA 15:12)

1. Vernadsky Institute of Geochemistry and Analytical Chemistry, Academy of Sciences, U.S.S.R., Moscow.
(Thallium compounds) (Extraction (Chemistry)(Solvents)

BAGREYEV, Vladimir Vladimirovich; VINOKUROV, Anatoliy Ivanovich; KISELEV, Vyacheslav Aleksandrovich; PANICH, Boris Bentsionovich; ITSKOVICH, Georgiy Mikhaylovich; KONDRASHOV, D.A., inzh., retsenzent; RUBASHKIN, A.G., inzh., retsenzent; ARKUSHA, A.I., nauchn. red.; KOZINTSOV, B.S., nauchn. red.; VASIL'YEVA, N.N., red.; YEROMITSKAYA, Ye.Ye., red.; SHAURAK, Ye.N., red.; KRYAKOVA, D.M., tekhn. red.

[Collection of problems in technical mechanics] Sbornik zadach po tekhnicheskoi mekhanike [By] V.V.Bagreev i dr. Leningrad, Sudpromgiz, 1963. 551 p. (MIRA 16:8)
(Mechanical engineering--Problems, exercises, etc.)

L 16597-63 EWT(m)/BDS ESD-3 RM

S/075/63/018/004/002/015

AUTHOR: Bagreyev, V. V. and Zolotov, Yu. A. 57 56

TITLE: A new method for increasing selectivity in the extraction of chelate compounds

PERIODICAL: Zhurnal analiticheskoy khimii, v. 18, no. 4, April 1963, 425-429

TEXT: Going upon the results of their experiment, the authors demonstrate the feasibility of the extraction separation of chelate compounds of elements (including those extractable at the same pH)by choosing the proper organic solvent. For example, lead and iron (III) 8-hydroxyquinolinates are separated from thallium (I) 8-hydroxyquinolinate by extraction with benzene at pH 9, and thallium 8-hydroxyquinolinate is then extracted at the same pH with isobutyl alcohol. Yttrium and strontium 8-hydroxyquinolinates and thenoyltrifluoroacetonates, and indium and thallium (I) 8-hydroxyquinolinates are separated in a similar manner. There are 5 tables. The authors thank I. P. Alimarin for his attention to the work and G. A. Vorob'yev for his help in performing

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L 16597-63

S/075/63/018/004/002/015

A new method for increasing ..... /

the experiment.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR, Moskva (The Institute for Geochemistry and Analytical Chemistry im. V. I. Vernadskiy, Academy of Sciences USSR, Moscow)

SUBMITTED: August 24, 1962

Card 2/2

BAGREYEV, V.V., kand. tekhn. nauk

Development of the theory of impact. Trudy MIIT no.164:100-110 '63.

Collision of solid bodies under close contact conditions. Ibid.:111-117

Forced vibration of a beam on flexible supports under the action of a distributed load. Ibid.:118-124

(MIRA 18:3)

BAGREYEV, V.V., kand.tekhn.nauk, dotsent

Some characteristics of elastoplastic impact. Trudy MIIT no.174: 113-117 '63. (MIRA 18:1)

ZOLOTOV, Yu.A.; ALIMARIN, I.P.; BAGREYEV, V.V.

Extraction of inner-complex compounds in the presence of salts. Part 2: Uranyl 1-(2-pyridylazo)-2-naphtholate. Trudy Kom. anal. khim. 15:59-63 '65. (MIRA 18:7)

L 1660-66 EWT(d)/EWT(m)/EWP(w) EM

ACCESSION NR: AP5021535 UR/0258/65/005/004/0796/0799
621.8.031.4

AUTHOR: Bagreyev, V. V. (Moscow) 14 B

TITLE: The course of the impact process beyond the limits of application of the Hertz theory

SOURCE: Inzhenernyy zhurnal, v. 5, no. 4, 1965, 796-799

TOPIC TAGS: impact force, impact stress, Hertz theory

ABSTRACT: To determine the limits of application of the Hertz impact theory which is based on elastic deformation only, impact experiments were performed into the plastic region of deformation and the impact force was recorded on an oscilloscope. The maximum impact force which is given as

$$\frac{P_{max}}{R_0^2} = 1{,}95\,\frac{\delta^{0{,}6}}{(\theta_1+\theta_2)^{0{,}4}},$$

by Hertz (where

$$\theta_j = \frac{1-\mu_j^2}{E_j};$$

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$$\delta = \frac{E_0}{R_0^3} = \frac{M_0 v_0^2}{2R_0^3},$$

$M_0 = M_1M_2(M_1+M_2)$; $R_0 = R_1R_2/(R_1+R_2)$) was measured as a function of δ for impacts of various materials on hardened steel and for $\delta > [\delta]$ (where $[\delta]$ is the value at which the Hertz theory begins to deviate from experiments). It was found that for soft steel $[\delta] \cong 0.2$ kg/cm^2, and the maximum force drops below the Hertz theory values above this δ. The diameter of the deformed area was found to be greater than that for the elastic case and also greater than for static loading (see Fig. 1 on the Enclosure). These results were also observed with other materials. Repeated impacts with the same specimen showed that after 100 blows at $\delta = 3.93 \times 10^{-2}$ kg/cm^2 the maximum impact force increased, the impact duration decreased, and the coefficient of recovery increased (46.8 - 61.1 kg; 206 - 176 μsec; 0.667-0.826). Additional experiments showed that this effect is due to work hardening in some cases and due to density increase in the impact areas in others (for softer materials). Experiments with glass showed that the Hertz relation is satisfied for brittle materials beyond δ (when first cracks occur) and holds until complete failure of the glass (pulverization of impact area). Other experiments and procedures are described by the author elsewhere (Uprugo-

L 1660-66

ACCESSION NR: AP5021535

plasticheskiy udar massionykh tel. Tr. Mosk. in-ta. inzh. zh.-d. transp., vypusk 193, 1964). Orig. art. has: 4 figures, 2 tables, and 3 formulas.

ASSOCIATION: none

SUBMITTED: 04Jen64 ENCL: 01 SUB CODE: ME

NO REF SOV: 003 OTHER: 000

Card 3/4

L 1660-66

ACCESSION NR: AP5021535

ENCLOSURE: 01

0

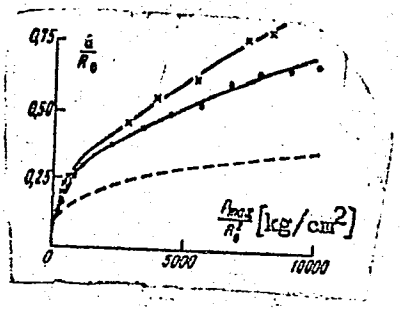

Fig. 1.
Impact diameter:
---elastic; ...static; xxx dynamic

Card 4/4

BAGREYEV, V.V.; ZOLOTOV, Yu.A.

Extraction of chelate compounds in the presence of salts. Report 3: Cobalt (II) and uranium (VI) acetyl acetonates. Zhur. anal. khim. 20 no.8:867-869 '65. (MIRA 18:10)

1. Institut geokhimii i analiticheskoy khimii imeni V.I. Vernadskogo AN SSSR, Moskva.

BAGREYEV, Ye. I

"Regulating the Water Regime of Peat Bog Soils by Maintaining the Water Level With Sluice Gates and Its Effect on the Yield of Perennial Grasses." Cand Agr Sci, Inst for the Socialization of Agriculture, Acad Sci Belorussian SSR, Minsk, 1955. (KL, No 9, Feb 55)

SO: Sum. No. 631, 26 Aug 55- Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

BAGREYEV, Ye.I. [Bahreeu, IE.I.], kand. sel'skagaspadarchykh navuk.

Increasing yields of perennial grasses on peat-bog soils by the use of sluices to regulate moisture conditions of the soil. Vestsi AN BSSR. Ser. biial. nav. no. 2:17-26 '58. (MIRA 11:8)
(Grasses)
(Peat bogs)
(Water, Underground)

5(2),5(3) 18

AUTHORS: Zabrodina,A.S., and Bagreyeva,M.R.

TITLE: A Micro Process for the Determination of Selenium in Organic Combinations of C,H,O,N,Se (Mikrometod opredeleniya selena v organicheskikh soyedineniyakh sostava C,H,O,N,Se) SOV/55-58-4-23/31

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 4, pp 167-192 (USSR)

ABSTRACT: It is stated that during the combustion of selenium-organic combinations in an oxygen flow the selenium can be changed into selenoxide also without platinum contacts (compare Umezawa [Ref4]). For a not too quick combustion, this fact can be used for a simplified proof of selenium, where the content of selenium dioxide is determined with the aid of iodine. The error is ± 0.3 %. The selenium-organic combinations investigated by the authors were derived from the laboratory for the chemistry of heterocyclic combinations (leader: Professor Yu.K.Yur'yev). There are 5 references, 4 of which are German, and 1 Japanese.

ASSOCIATION: Kafedra organicheskoy khimii (Chair of Organic Chemistry)

SUBMITTED: July 1, 1957

Card 1/1

MERLIS, V.M.; BAGREYEVA, M.R.; VESELOVSKAYA, G.G.

Determining the narcotine content in opium. Med. prom. 16 no.2:46-48 F '62. (MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni Ordzhonikidze.
(OPIUM)
(NARCOTINE)

Bagrikov, I.N.

BAGRIKOV, I.N., inzhener; TISHENKOV, A.M., dotsent; SKORODUMOVA, I.P.

"Economics and organization of power production" by S.A.Pruzner, G.A.Kalinin, S.F.Shershov. Reviewed by I.N.Bagrikov, A.M.Tishenkov, I.P.Skorodumova. Elek.sta. 28 no.8:94-96 Ag '57. (MIRA 10:10)
(Pruzner, S.A.) (Kalinin, G.A.) (Shershov, S.F.)
(Electric power)